

REMARKS/ARGUMENTS

The Examiner is thanked for the final Office Action mailed July 9, 2008. The status of the application is as follows:

- Claims 1-20 are pending and claims 1 and 15-20 have been amended;
- Claims 15-20 are objected to for informalities;
- Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph;
- Claims 1-3, 5-8, 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zlokolic et al. (Video denoising using multiple class averaging with multiresolution) in view of Griessl et al. (US 6,370,196); and
- Claims 4, 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zlokolic et al. in view of Griessl et al. and further in view of Brailean et al. (Noise Reduction: Filters for Dynamic Image Sequence: A Review).

The objection and rejections are discussed below.

The Objection to Claims 15-20

Claims 15-20 are objected to for informalities. In particular, the Office objects to claims 15-20 for teaching the storage medium of claim 7, when claim 7 teaches a computer readable storage medium. Claims 15-20 have been amended as recommended by the Office, and as such, the objection of claims 15-20 should be withdrawn.

The Rejection of Claims 1-5 under 35 U.S.C. 112, First Paragraph

Claims 1-5 stand rejected under 35 U.S.C. 112, first paragraph, with the Office asserting that the specification does not reasonably provide enablement for a single structural element performing all of the claimed functions. In the application as originally filed, claim 1 included three elements that performed the recited functions. Claim 1 has been amended herein so that claim 1 again includes three elements that perform the recited functions. Accordingly, the rejection of claim 1, and claim 2-5, which depend therefrom, should be withdrawn.

The Rejection of Claims 1-3, 5-8, 10-19 under 35 U.S.C. 103(a)

Claims 1-3, 5-8, 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zlokolica et al. in view of Griessl et al. This rejection should be withdrawn because the combination of Zlokolica et al. and Griessl et al. does not teach or suggest all the limitations of the subject claims and, therefore, fails to establish a *prima facie* case of obvious with respect to the subject claims.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, (CCPA 1974). MPEP §2143.03.

Claim 1 recites an image processing system for reduction of the noise and enhancement of edges in images of a sequence, comprising, *inter alia*: a filter that temporally filters one or more of the slices for differently filtering the slices according to the content, wherein one or more high frequency slices are filtered at a greater rate than one or more low frequency slices. The combination of Zlokolica et al. and Griessl et al. fail to teach or suggest this element.

The Office concedes that Zlokolica et al. fails to teach differently filtering the slices according to the content wherein one or more high frequency slices are filtered at a greater rate than one or more low frequency slices, but asserts Griessl et al. as making up this deficiency. In general, Griessl et al. discloses a motion estimation system 100, where shapes within images are used to stabilize a motion estimation and to track motion over several frames (see columns 3, lines 66 to column 4, lines 4). In particular, motion estimation is accomplished by reducing the input fields through a filter module 102 and subsample module 103 until the coarsest resolution level is reached. A motion field is then estimated, propagated and expanded to the next finer resolution level (see column 6, lines 14-24).

Griessl et al. fails to teach or suggest the subject claim element. The filter 102 and subsample 103 modules of Griessl, which the Office cites as teaching the claimed filter, do not filter one or more high frequency slices at a greater rate than one or more low frequency slices. Rather, Griessl et al. discloses applying a “typical reduce operation” to all input data with respect to shape information, wherein *the different types of fields, i.e. resolution levels, may be treated differently* (see column 6, lines 36-40). As such, slices of an image are not treated differently, but rather only the resolution levels of the shape information are treated differently. Thus,

Griessl et al. fails to teach a filter that temporally filters one or more high frequency slices at a greater rate than one or more low frequency slices as recited in claim 1. Therefore, the combination of Zlokolica et al. and Griessl et al. fails to teach or suggest all of the elements of claim 1, and the rejection of claim 1 should be withdrawn.

Independent **claims 7 and 8** recites aspects similar to those recited in claim 1. As such, the arguments made previously with regards to claim 1 apply *mutatis mutandis* to claims 7 and 8. Hence, the rejection of claims 7 and 8 should be withdrawn.

Claims 2, 3, 5, 6, and 10-19 all depend from claims 1, 7, and 8, respectively, and are allowable at least by virtue of their dependencies. Therefore, the rejection of claims 2, 3, 5, 6, and 10-19 should be withdrawn.

The Rejection of Claims 4, 9 and 20 under 35 U.S.C. 103(a)

Claims 4, 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zlokolica et al., in view of Griessl et al., and further in view of Brailean et al. **Claims 4, 9, and 20** depend from independent claims 1, 7, and 8, respectively. As such, claims 4, 9, and 20 are allowable at least by virtue of their dependencies, and the rejection of claims 4, 9, and 20 should be withdrawn.

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Conclusion

In view of the foregoing, it is submitted that the claims distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,



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